



STIC Search Report

EIC 1700

STIC Database Tracking Number: 150168

TO: Fred Parker
Location: REM 8C56
Art Unit : 1762
April 7, 2005

Case Serial Number: 10/670819

From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov

Search Notes

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SEARCH REQUEST FORM

Access DB# 49056
150188

Scientific and Technical Information Center

Requester's Full Name: Fred Parker Examiner #: 72396 Date: 3-28-05
Art Unit: 1262 Phone Number 301-571-272-1426 Serial Number: 101620819
Mail Box and Bldg/Room Location: REM 8 / 100 Results Format Preferred (circle): PAPER DISK E-MAIL
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If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____


Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

I need to find out if the 2 inventors of 2003/0230819 presented the information related in the patent before March 19, 2003, e.g. at a conference, in a proceedings, book, etc. The ~~the~~ micro-encapsulation using ultrasonic atomizers should relate to coating medical appliances, such as stents, catheters, etc. Try STN + any other relevant data bases.

Thank-you,



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Web

 Results 1 - 10 of about 17 for "**kinam park**" **ultrasonic** . (0.11 seconds)

Characterization of Reservoir-Type Microcapsules Made By the ...

... Correspondence to: **Kinam Park** Tel: 765-494-7759 Fax: 765-496 ... Keywords: microencapsulation , solvent exchange, **ultrasonic** atomizer, reservoir-type microcapsules ...

www.aapspharmscitech.org/default/view.asp?art=pt050452&pdf=yes - 99k - [Cached](#) - [Similar pages](#)

[\[PDF\] Characterization of Reservoir-Type Microcapsules Made By the ...](#)

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Third, physical stress that the **ultrasonic** atomizer generates is relatively mild ...

1 Corresponding Author: **Kinam Park**, Purdue University, School of Pharmacy, 575 ...

www.aapspharmscitech.org/articles/pt0504/pt050452/pt050452.pdf - [Similar pages](#)

Pharma Technology :: Characterization of Reservoir-Type ...

... Pharma Technology, Yoon Yeo, **Kinam Park** AAPS PharmSciTech. ... containing lysozyme as a model protein were produced using a coaxial **ultrasonic** atomizer under ...

www.pharmainfo.net/displayarticle7686.html - 13k - [Cached](#) - [Similar pages](#)

TEKNA TM valves

... Zhai, Sherrie Lanzo, Hong Shim, **Kinam Park**, David J. Schaeffer, A. Robert Twardock 1999;8:324-330. Thrombogenicity assessment. **Ultrasonic** Determination of Clot ...

www.icr-heart.com/journal/subjectindex/subject_t.htm - 51k - [Cached](#) - [Similar pages](#)

OUP USA: Polysaccharide Applications: Magda A. El-Nokaly

... of Thermoreversible Sucrose Hydrogels (Sucrogels), Seongbong Jo and **Kinam Park**. ... 18.

Ultrasonic Techniques to Characterize Concentrated Colloidal Dispersions, DJ ...

www.us.oup.com/us/catalog/J778/subject/IndustrialAppliedChemistry/?view=usa&sf=toc&ci=0841236410 - 20k -

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BIOT 381 - Solvent exchange method: A new microencapsulation ...

... **Kinam Park** and Yoon Yeo. ... Reservoir-type microcapsules were produced using a dual microdispenser system or a coaxial **ultrasonic** atomizer, based on midair ...

oasys2.confex.com/acs/227nm/techprogram/P726744.HTM - 3k - Supplemental Result - [Cached](#) - [Similar pages](#)

Amazon.com: Table of Contents: Polysaccharide Applications ...

... Sucrose Hydrogels (Sucrogels), Seongbong Jo and **Kinam Park** 9. Investigations on ...

Ultrasonic Techniques to Characterize Concentrated Colloidal Dispersions, DJ ...

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[Cached](#) - [Similar pages](#)

[\[PDF\] molecules](#)

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Jae Hyung Park, Mingliang and **Kinam Park*** ... 17. Felder Ch, B.; Blanco-Prieto, MJ; Heizmann, J.; Merkle, H. P.; Gander, ... **Ultrasonic** atomization and subsequent ...

www.mdpi.org/molecules/articles/10010146.pdf - [Similar pages](#)

[\[PDF\] 1999 McCoy Award](#)

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... The technology being used to develop this new therapy is superporous hydrogels (SPHs), which were developed at Purdue by Dr. **Kinam Park** in the department of ...

www.purdue.edu/Research/np/publications/docs/resrev/RR-may99.pdf - [Similar pages](#)

SPM (AFM, LFM, MFM, EFM ...) in Materials Research - Mechanical ...

... Particles by Atomic Force Microscopy Tonglei Li, Kinam Park Pharmaceutical Research ...

using atomic force and friction force microscopy at ultrasonic frequencies V ...

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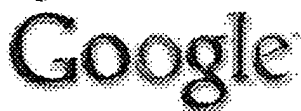
"kinam park" ultrasonic

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... Daniel Blankschtein, Robert Langer, and Hua Tang **Ultrasonic Nebulizers** Orla ... and David Ganderton Vaccines and Other Immunological Products **Kinam Park**, Suresh K ...

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[PDF] [Controlled Release Society Newsletter v19i1](#)

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... The mechanism for permeation enhancement appears to be due to **ultrasonic** perturbation and decrease in the activation energy of the barrier membrane (15). ...

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... Quantitative quasi-static nanoindentation and **ultrasonic** measurements carried out at the nanoscale can provide a very complex characterization of biological ...

[www.mrs.org/meetings/spring2002/abstracts/AbstractBookN.pdf](#) - [Similar pages](#)

[al delivery](#)

... Delivery of **ultrasonic** nebulized aerosols to ... [http://www.ispesl.it/informazione/links/docudel.htm](#) OUP USA: Controlled Drug Delivery: **Kinam Park** ...

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 ... Pharma Technology, Yoon Yeo, Kinam Park AAPS PharmSciTech. ... containing lysozyme as a model protein were produced using a coaxial **ultrasonic** atomizer under ...

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Characterization of Reservoir-Type Microcapsules Made By the ...

 ... Made By the Solvent Exchange Method **Yoon Yeo**, 1,2 ... Keywords: microencapsulation, solvent exchange, **ultrasonic** atomizer, reservoir-type microcapsules, protein ...

www.aapspharmscitech.org/default/view.asp?art=pt050452&pdf=yes - 99k - [Cached](#) - [Similar pages](#)

[PDF] Characterization of Reservoir-Type Microcapsules Made By the ...

 File Format: PDF/Adobe Acrobat - [View as HTML](#)

 ... Third, physical stress that the **ultrasonic** atomizer generates is relatively mild, 10 so protein stability will barely be ... **Yoon Yeo**, 1,2 and Kinam Park 1 ...

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..... HYUNG DO TECHNO - 흥도테크노

 ... 14. **Ultrasonic** washing machine. 1. combined rectification 3 party. 세진초음파. ... 25.

 D/C puncture tester automatic. 1. each pin automatic 5kv. **Yoon**, **Yeo-rim** ENG. ...

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BIOT 381 - Solvent exchange method: A new microencapsulation ...

 ... Kinam Park and Yoon Yeo. ... Reservoir-type microcapsules were produced using a dual microdispenser system or a coaxial **ultrasonic** atomizer, based on midair ...

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US 20030230819A1

(19) **United States**(12) **Patent Application Publication****Park et al.**(10) **Pub. No.: US 2003/0230819 A1**(43) **Pub. Date: Dec. 18, 2003**(54) **MICROENCAPSULATION USING
ULTRASONIC ATOMIZERS**(76) **Inventors: Kinam Park, West Lafayette, IN (US);
Yoon Yeo, Lafayette, IN (US)****Correspondence Address:****JAMES H. MEADOWS AND MEDICUS
ASSOCIATES
2804 KENTUCKY
JOPLIN, MO 64804 (US)**(21) **Appl. No.: 10/392,245**(22) **Filed: Mar. 19, 2003****Related U.S. Application Data**(63) **Continuation-in-part of application No. 10/017,338,
filed on Dec. 13, 2001, now Pat. No. 6,599,627.**(60) **Provisional application No. 60/365,411, filed on May
19, 2002. Provisional application No. 60/254,929,
filed on Dec. 13, 2000. Provisional application No.
60/294,263, filed on May 31, 2001.****Publication Classification**(51) **Int. Cl.⁷ B29C 39/10**(52) **U.S. Cl. 264/4**

(57)

ABSTRACT

A method for generating a plurality of drug-containing microcapsules employs one or more atomizers to form the microcapsules by the phenomenon of solvent exchange. A plurality of microdroplets of an aqueous solution is contacted with a plurality of microdroplets containing a polymer dissolved in a hydrophilic solvent under conditions whereby the polymer solution envelops the aqueous microdroplet. Exchange of solvent molecules between the aqueous core and its polymer-containing shell deposits the polymer as a membrane around the aqueous core. A preferred atomizer is a coaxial ultrasonic atomizer. Microcapsules can be generated in air as well as when submersed in a collection bath. Desired properties of the microcapsules, e.g., controlled release, can be achieved by providing protective excipients within the aqueous core, providing a hydrophilic polymer capable of undergoing a sol-to-gel transition within the aqueous core, optimizing selection of the polymer solvent, adjusting relative flow rates, and the like.

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L1 281 S E43-E46

E YEO YOON/AU

L2 15 S E3-E4

L3 12 S L1 AND L2

L4 10 S L3 AND (COATING OR MICROENCAP?)

L5 10 S L3 AND MICROENCAP?

L6 6 S L5 AND ULTRASON?

L7 4 S L6 AND 1907-2003/PY,PRY

L8 2 S L6 AND 1907-2002/PY,PRY

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=> d 17 1-4 ibib abs hitstr hitind

L7 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:989857 HCAPLUS

DOCUMENT NUMBER: 140:19886

TITLE: **Microencapsulation using
ultrasonic atomizers**

INVENTOR(S): **Park, Kinam; Yeo, Yoon**

PATENT ASSIGNEE(S): **Perdue Research Foundation, USA**

SOURCE: **U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part
of U.S. Ser. No. 17,338.**

CODEN: USXXCO

DOCUMENT TYPE: **Patent**

LANGUAGE: **English**

FAMILY ACC. NUM. COUNT: **3**

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
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US 2003230819	A1	20031218	US 2003-392245

2003

0319

US 6767637 B2 20040727 <--
US 2002160109 A1 20021031 US 2001-17338

2001

1213

US 6599627 B2 20030729 <--
EP 1404516 A2 20040407 EP 2001-275084

2001

1213

<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, FI, CY, TR
PRIORITY APPLN. INFO.: US 2000-254920P P

2000

1213

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US 2001-294263P P

2001

0531

<--
US 2001-17338 A2

2001

1213

<--
US 2002-365411P P

2002

0319

<--
WO 2001-US48420 W

2001

1213

<--

AB Disclosed is a method for generating a plurality of drug-containing microcapsules employs one or more atomizers to form the microcapsules by the phenomenon of solvent exchange. A plurality of microdroplets of an aqueous solution is contacted with a plurality of microdroplets containing a polymer dissolved in a hydrophilic solvent under conditions whereby the polymer solution envelops the aqueous microdroplet. Exchange of solvent mols. between the aqueous core and its polymer-containing shell deposits the polymer as a membrane around the aqueous core. A preferred atomizer is a coaxial **ultrasonic** atomizer. Microcapsules can be generated in air as well as when submersed in a collection bath. Desired properties of the microcapsules, e.g., controlled release, can be achieved by providing protective excipients within the aqueous core, providing a hydrophilic polymer capable of undergoing a sol-to-gel transition within the aqueous core, optimizing selection of the polymer solvent, adjusting relative flow rates, and the like. A solution of 2 % PLGA in Et acetate and an aqueous solution containing 0.2 % sodium alginate were delivered in to a coaxial **ultrasonic** atomizer. The aqueous solution flowed through the inner nozzle at 0.25 mL/min and the polymer solution flowed through the outer nozzle at 1.5 mL/min. For confocal microscopy, the dye in the aqueous solution was replaced with 2.8 mg/mL FITC-dextran, and 0.4 mg/mL Nile Red was added to Et acetate. Upon the onset of the **ultrasonic** vibration of the atomizer, both liqs. were fragmented into microdrops. The collision of multiple drops in air produced microcapsules. Thus formed microcapsules were collected in a water bath containing 0.15 M calcium chloride for stabilization of the microcapsules through formation of calcium-alginate gel.

IC ICM B29C039-10
NCL 264004000
CC 63-6 (Pharmaceuticals)
ST drug polyester **microencapsulation ultrasonic** atomizer

IT Drug delivery systems
(freeze-dried; **microencapsulation** of drugs using
ultrasonic atomizers)

IT Drug delivery systems
(microcapsules, controlled-release; **microencapsulation**
of drugs using **ultrasonic** atomizers)

IT Drug delivery systems
(microcapsules; **microencapsulation** of drugs using
ultrasonic atomizers)

IT Albumins, biological studies
Gene, animal
Oligonucleotides
Polyesters, biological studies
Polysaccharides, biological studies
Proteins
(**microencapsulation** of drugs using **ultrasonic**
atomizers)

IT Encapsulation
(**microencapsulation**; **microencapsulation** of
drugs using **ultrasonic** atomizers)

IT Medical goods
(stents, drug coatings on; **microencapsulation** of
drugs using **ultrasonic** atomizers for)

IT Spray atomizers
(**ultrasonic**; **microencapsulation** of drugs
using **ultrasonic** atomizers)

IT 64-19-7, Acetic acid, uses 79-20-9, Methyl acetate 109-94-4,
Ethyl formate 141-78-6, Ethyl acetate, uses
(**microencapsulation** of drugs using **ultrasonic**
atomizers)

IT 9001-63-2, Lysozyme 26100-51-6, Lactic acid homopolymer
26124-68-5, Glycolic acid homopolymer 34346-01-5, Glycolic
acid-lactic acid copolymer
(**microencapsulation** of drugs using **ultrasonic**
atomizers)

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE
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L7 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:777535 HCAPLUS
DOCUMENT NUMBER: 139:281264
TITLE: **Microencapsulation** using
ultrasonic atomizers
INVENTOR(S): **Park, Kinam; Yeo, Yoon**
PATENT ASSIGNEE(S): **Purdue Research Foundation, USA**

SOURCE: PCT Int. Appl., 51 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
WO 2003079990	A2	20031002	WO 2003-US8559

2003
0319

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-365411P P

2002

0319

<--

AB A method for generating a plurality of drug-containing microcapsules employs one or more atomizers to form the microcapsules by the phenomenon of solvent exchange. A plurality of microdroplets of an aqueous solution is contacted with a plurality of microdroplets containing a polymer dissolved in a hydrophilic solvent under conditions whereby the polymer solution envelops the aqueous microdroplet. Exchange of solvent mols. between the aqueous core and its polymer-containing shell deposits the polymer as a membrane around the aqueous core. A

preferred atomizer is a coaxial **ultrasonic** atomizer.

Microcapsules can be generated in air as well submersed in a collection bath. Desired properties of the microcapsules, e.g., controlled release, can be achieved by providing protective excipients within the aqueous core, providing a hydrophilic

polymer

capable of undergoing a sol-to-gel transition within the aqueous core,

optimizing selection of the polymer solvent, adjusting relative flow rates, and the like. **Microencapsulation** using a coaxial **ultrasonic** atomizer was carried out with

glycolic acid-lactic acid copolymer in Et acetate and an aqueous solution

containing Na alginate.

IC ICM A61K

CC 63-6 (Pharmaceuticals)

ST **microencapsulation ultrasonic** atomizer

IT Polyesters, biological studies

(hydroxycarboxylic acid-based; **microencapsulation** using **ultrasonic** atomizers)

IT Drug delivery systems

(microcapsules; **microencapsulation** using **ultrasonic** atomizers)

IT Piezoelectric apparatus

(**microencapsulation** using **ultrasonic** atomizers)

IT Gene, animal

Oligonucleotides

Polysaccharides, biological studies

Proteins

(**microencapsulation** using **ultrasonic** atomizers)

IT Encapsulation

(**microencapsulation**; **microencapsulation** using **ultrasonic** atomizers)

IT Spray atomizers

(**ultrasonic**; **microencapsulation** using **ultrasonic** atomizers)

IT 64-19-7, Acetic acid, biological studies 79-20-9, Methyl acetate

109-94-4, Ethyl formate 141-78-6, Ethyl acetate, biological studies 7732-18-5, Water, biological studies 34346-01-5, Glycolic acid-lactic acid copolymer

(**microencapsulation** using **ultrasonic** atomizers)

L7 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:666573 HCAPLUS
DOCUMENT NUMBER: 139:297383
TITLE: New **microencapsulation** technique
using an **ultrasonic** atomizer based
on the solvent exchange method
AUTHOR(S): **Yeo, Yoon; Park, Kinam**
CORPORATE SOURCE: Departments of Pharmaceutics and Biomedical
Engineering, Purdue University, West
Lafayette, IN, USA
SOURCE: Polymeric Materials Science and Engineering (**2003**), 89, 143-144
CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English
AB A method is presented for the **microencapsulation** based
on the solvent exchange method combined with a coaxial
ultrasonic atomizer. The **microencapsulation**
system is depicted and described. A solution of 2%
poly(lactic-co-glycolic acid) (PLGA) in Et acetate and an aqueous
solution containing 0.2% Na alginate were sep. fed into an
ultrasonic atomizer through coaxial cables. The samples
were characterized by confocal laser scanning microscopy (CLSM).
To do so, fluorescein isothiocyanate (FITC) dextran and nile red
were added to the aqueous solution and the PLGA solution, resp.
The **microencapsulation** is a result of the random collision
among multiple drops of the polymer and the aqueous solution
The mild conditions of the process make it suitable for the encapsulation
of proteins or peptides.
CC 66-2 (Surface Chemistry and Colloids)
Section cross-reference(s): 63
ST **microencapsulation** solvent exchange **ultrasonic**
atomizer pharmaceutical dosage
IT Solvents
(exchange; **microencapsulation** technique using
ultrasonic atomizer based on solvent exchange method)
IT Interfacial structure
(**microencapsulation** technique using
ultrasonic atomizer based on solvent exchange method)
IT Encapsulation
(**microencapsulation**; **microencapsulation**
technique using **ultrasonic** atomizer based on solvent
exchange method)
IT Drug delivery systems
(microspheres; **microencapsulation** technique using

ultrasonic atomizer based on solvent exchange method)
IT Spray atomizers
(ultrasonic; microencapsulation technique
using ultrasonic atomizer based on solvent exchange
method)
IT 141-78-6, Ethyl acetate, properties 9005-38-3, Sodium alginate
34346-01-5, Lactic-acid, glycolic acid, copolymer
(microencapsulation technique using
ultrasonic atomizer based on solvent exchange method)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE
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L7 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:636478 HCAPLUS
TITLE: New microencapsulation technique
using an ultrasonic atomizer based
on the solvent exchange method
AUTHOR(S): Yeo, Yoon; Park, Kinam
CORPORATE SOURCE: Purdue University, West Lafayette, IN, 47907,
USA
SOURCE: Abstracts of Papers, 226th ACS National
Meeting, New York, NY, United States,
September 7-11, 2003 (2003), 917-11/03
PMSE-094. American Chemical Society:
Washington, D. C.
CODEN: 69EKY9
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB A new microencapsulation technique called the solvent
exchange method was described. The solvent exchange method
utilizes interfacial mass-transfer between two mutually soluble
liqs.
and produces reservoir-type microcapsules. Ultrasonic
atomizer(s) were employed to implement the solvent exchange
method. A large number of microcapsules were produced as a
result of
collision among multiple drops of component materials.

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S2	10	AU='YEO YOON'
S3	10	S1 AND S2
S4	0	S3 AND PY<2003
S5	2	S3 AND PY=2003

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 DIALOG(R)File 5:Biosis Previews(R)
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A new process for making reservoir-type microcapsules using ink-jet technology and interfacial phase separation.

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ABSTRACT: A new microencapsulation technique that utilizes interfacial mass transfer between two mutually soluble liquids has been developed. The technique is based on formation of a solid polymer film at the interface of a solution of a water-insoluble polymer and an aqueous solution, resulting from the mutual mass transfer of solvents (i.e., solvent exchange). Reservoir-type microcapsules were prepared by inducing this phenomenon to occur on the surface of an aqueous droplet. One method of implementation employed a dual microdispenser system that consisted of two ink-jet nozzles. The nozzles, producing droplets of a polymer solution and an aqueous drug solution, respectively, were aligned to allow collision of pairs of the droplets. The collision resulted in spreading of the polymer solution on the aqueous droplet and simultaneous solvent exchange, to form a polymeric membrane around the aqueous droplet. The formation of the polymer membrane depended largely on the favorable spreading of the polymer solution on the aqueous droplets and fast solvent exchange, and required judicious selection of the organic solvent. Simple and fast screening methods were developed for selection of a proper solvent. Ethyl acetate was chosen as one of the most desirable solvents through the screening procedures. Ethyl acetate and the dual microdispenser system were used to form microcapsules that were subsequently examined by microscopic methods to demonstrate their unique geometry.

REGISTRY NUMBERS: 141-78-6: ethyl acetate

DESCRIPTORS:

MAJOR CONCEPTS: Methods and Techniques; Pharmacology
CHEMICALS & BIOCHEMICALS: ethyl acetate--solvent

METHODS & EQUIPMENT: ink-jet nozzle--laboratory equipment;
microencapsulation--laboratory techniques
MISCELLANEOUS TERMS: ink-jet technology; interfacial phase
separation;
reservoir-type microcapsules; solvent exchange; solvent screening

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Descriptors: *Capsules; *Drug Design; *Surface Properties; *Technology
Transfer; Acetates--chemistry--CH; Chemistry,
Physical--methods--MT;
Delayed-Action Preparations--therapeutic use--TU; Drug
Compounding--methods
--MT; Emulsions--chemistry--CH; Microscopy, Confocal; Models,
Molecular;
Nebulizers and Vaporizers; Pharmaceutic Aids--chemistry--CH;
Polyglactin
910--chemistry--CH; Polymers--chemistry--CH; Solubility--drug
effects--DE;
Solutions--chemistry--CH; Solvents--chemistry--CH; Water
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